ROOFING FOR HISTORIC BUILDINGS

Gutters and Downspouts

Gutters and downspouts are the principal means by which water is conveyed off a roof and away from a building. There is little evidence that they were employed at first in the Colonies but by the early 18th century their use had become an accepted practice on finer buildings.

An early wooden gutter with brackets is illustrated in Francis William Edmonds' painting, *The Thirsty Drover*,1856. Rain barrels or cisterns were common repositories for rain water and were ubiquitous elements in the colonial landscape. (Image courtesy of the Nelson-Atkens Museum of Art, Kansas City, Missouri. Purchase: Nelson Trust). [click image for larger view]

Simple styles of wooden gutter from the 18th century include the V-shaped gutter, formed by fastening the long sides of two boards together or the rectilinear shaped gutter formed by hollowing out a hewn log. Wooden pins or wrought iron brackets were used to fasten the gutter to the eave or side of the building. "Drop gutters" or downspouts were wooden and were formed by fastening four boards together or by hollowing out a hewn block of wood or log. Improvements were made to wooden gutters over time and they became not only practical drainage components but aesthetically pleasing architectural details with classical profiles.

An 1871 photograph of the corner of 3rd Street, south of Walnut in Philadelphia shows a number of rain water conductor systems. In the lower left corner is a metal roof with a built-in gutter lined with metal; on the far right is a building with a wood shingle roof and a built-in gutter with exposed downspout; and in the center is a four story brick building with built-in gutters and internal downspouts. (Print & Picture Collection, The Free Library of Philadelphia) [click image for larger view]

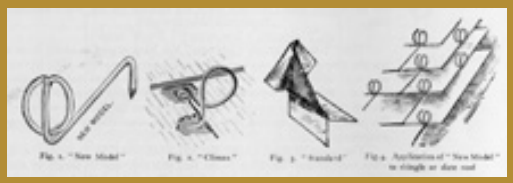
They remained popular in the New England area until World War II. Wooden downspouts however were found to leak and were eventually replaced by metal ones.

Lead was another material used during colonial times for making gutters and downspouts. The half-round was the earliest form of hanging metal gutter and was made from sheets of hammered lead formed around wooden poles into a U-shape shaped trough. When hung, the gutter was loosely suspended from the roof eaves by straps. Early metal downspouts were typically cylindrical in shape and made of lead. Some downspouts ran only partially down the sides of buildings while others dropped to just above grade and onto splash stones, into cisterns, or into underground drainage systems. With the advent of the Revolutionary War, the military need for lead for the Colonies encouraged the use of other metals like copper, tinplate, and terneplate.

Built-in gutters were introduced into the

Snow Guards

Snow guards or snow brakes, as they are sometimes called, began appearing on slate and metal roofs of New England in the late 1800s. The tremendous quantities of snow and ice that accumulated on these roofs made the wood or metal diverter, typically attached above the front entry, an ineffective tool in preventing the snow from sliding down the roof. With snow guards in place, the snow would eventually blow away or remain until it melted. Not only was the risk of damage to objects and persons below avoided, but the banking of snow and ice at the eaves was prevented, thus eliminating the chances of backwater and consequent leaks, as well as a straining of the gutter structure. (Sweet's Architectural Catalogue, 1906. Courtesy of the Sweets Group, the McGraw-Hill Companies, Inc.)



Folsom Snow Guard Company of Boston, Massachusetts advertised three models of snow guards in the 1906 **Sweet's Indexed Catalogue of Building Construction**. [click image for larger view]

American vocabulary with high-style 18th century buildings. Characterized by its integration with a cornice (either open or closed), built-in gutters preserved the architectural detail of the cornice while providing a practical solution to storm water drainage.

Historically these were boxes made of wood, the bottom of which was sloped, and, where possible, lined with metal, usually lead. As buildings grew in height and complexity in the 19th century, cast iron or tile internal downspouts or leaders were introduced to invisibly move water away from the roof and into subterranean drainage systems.

The pole gutters on the roof at 757 Swanson Street, Philadelphia in 1868 divert rainwater to a short cylindrical downspout. Moisture damage is evident on the wall of the building below the end of the pipe where there is no downspout extension. (Print & Picture Collection, The Free Library of Philadelphia) [click image for larger view]

Another type of metal gutter seen on early high style buildings of the 18th century was the pole or stop gutter. In its simplest form, a pole gutter was made by folding up one edge of the metal sheet until the upright edge was perpendicular when placed upon the roof. It was fastened near the eaves to channel water directly off the roof or to a downspout. Wooden boards were often secured just below the metal gutter to keep it from flattening out. Pole gutters were popular until the early 20th century.

During the Industrial Revolution hanging metal gutters became very popular. Supplier's catalogues offered seven different styles, custom and stock, imitating classical moulding profiles in eight-foot lengths. By the 20th century these were available in terne, copper, galvanized iron, galvanized steel, monel, aluminum, and even vinyl. The "K-style" gutter trough, easily identified by its ogee profile, became a standard in the 1940s.

Home Page Top Next

Heritage Preservation Services

Parknet

ks